

Wu, Jennifer

From: Wu, Jennifer
Sent: Thursday, July 13, 2017 2:17 PM
To: 'Malenna Cappellini'
Subject: RE: Clarification questions on LNFH NPDES permit comments

I'll look again and see if I missed it in my email. Thanks, Malenna.

From: Malenna Cappellini [mailto:malenna_cappellini@fws.gov]
Sent: Thursday, July 13, 2017 2:15 PM
To: Wu, Jennifer <Wu.Jennifer@epa.gov>
Subject: Re: Clarification questions on LNFH NPDES permit comments

I thought that I already emailed you the answers but I will see what happened to the email and take care of all of it tomorrow.

Sent from my iPhone

On Jul 13, 2017, at 2:11 PM, Wu, Jennifer <Wu.Jennifer@epa.gov> wrote:

Thanks, Malenna. Just checking in that you still plan to respond in writing to the other questions. Though we talked, it would be helpful to have responses in writing to make sure I understood correctly. Also, you had indicated in your call that the Hatchery would like to keep Outfall 003 as part of the permit, and it would be helpful if you could confirm that in email. If it's possible to get something in the next 2-3 weeks, that would be great. If that's difficult, feel free to let me know. - Jenny

From: Cappellini, Malenna [mailto:malenna_cappellini@fws.gov]
Sent: Tuesday, July 11, 2017 1:41 PM
To: Wu, Jennifer <Wu.Jennifer@epa.gov>
Subject: Re: FW: Clarification questions on LNFH NPDES permit comments

See excerpt below. The exact answer to your question is highlighted in red but I put the whole description her so you would have the information in context.

1. Point of Diversion and Gravity Flow Delivery System

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The LNFH's intake facilities contain several components. The intake system relies on gravity flow to

convey water from the intake to the hatchery. Primary to the LNFH water intake system is a rubble masonry diversion structure that spans Icicle Creek (at rm 4.5). The low head structure is comprised of a concrete base with flash boards on top and a pool and weir fish ladder. The structure raises water elevations several feet allowing a portion of the flow to be diverted into a concrete water conveyance channel with a grizzly rack (with 6-inch bar spacing) at its entrance. Since 2010, from mid-July through September, LNFH staff place a section of cyclone fence (with 4-inch plastic-coated mesh) in front of the outer grizzly rack to prevent adult SCS or their post-spawn carcasses from entering the conveyance channel. To date, no fish have become impinged on the fence, however post-spawn SCS carcasses have been found in the past on the outside rack. Water entering the conveyance channel is transported a short distance from the coarse grizzly rack to a small building which houses a fine rack (with 1-½ inch bar spacing), an overflow spill section, and a sediment sluicing section. The coarse and fine racks serve to limit the size of objects that may enter the pipeline. Hatchery personnel inspect the intake structure twice daily (once at the start and once at the end of the work day, typically around 7:00AM and 3:30 PM, respectively) to remove accumulated debris from the racks and to ensure adequate flow is entering the diversion canal. Inspections occur more often during higher flows and accompanying heavier debris loads and during colder water temperature periods when ice forms on the racks.

A discharge channel guides the spilled water and sluiced material back to the creek downstream of the building. Water retained in the system is transported from

the fine rack into a 33-inch diameter buried pipeline. A slide gate is located at the pipe entrance to regulate flow into the pipe. Normally this gate is left fully open. Approximately 1,260 ft. down gradient from the beginning of the pipe system is a gate valve that controls flow into COIC's delivery system. COIC's pipe leads to a small drum screen that provides a means of bypassing fish from COIC's diversion flow back to the river at rm 4.2. The drum screen has been updated; however, the fish bypass system as a whole is presently not up-to-date as the fish return does not work effectively during low flow. To address this issue, the LNFH has retrofitted the fish return with a pvc "slide" that gently returns fish to the river.

A maximum of 42 cfs of river water that does not enter COIC's water delivery system is transported through a 31-inch diameter buried pipeline for approximately 5,200 ft. to the hatchery. Before water enters the hatchery's rearing units it is either routed into a sand-settling basin (normal operation) or to screen chambers. The sand-settling basin, on occasion, needs to be cleaned of sediment. Such cleaning involves drawing down the water in the basin and netting and transferring any entrained fish back to Icicle Creek.

From the sand-settling basin, water is transported through the main pipeline to both the outside and inside screen chambers. The screens are composed of vertical static screen panels and are used to filter fish and debris from the hatchery's water supply. Both screen chambers meet NOAA Fisheries 1994 standards for fish screening (NMFS

1994) but may not meet the more recently developed 2011 criteria (NMFS 2011). The screens' fish bypass return does not work properly and is no longer used. The area in the vicinity of the screens is monitored twice daily (once at the start and once at the end of the work day, typically around 7:00 AM and 3:30 PM, respectively). To increase the efficiency of capturing and removing fish from the vicinity of the screen chambers, the LNFH installs a minnow trap. The minnow trap is constructed with ¼ inch vinyl-coated wire to protect the captured fish and includes a 1 inch entrance opening at both ends. The minnow trap is no smaller than 16.5 inches long, 9.0 inches in diameter at the center, and 7.5 inches in diameter at both ends. Captured fish are netted and returned to Icicle Creek. Screened river water exiting the two chambers is used in the hatchery's rearing units and then enters the discharge system or is re-used within the hatchery before entering the discharge system.

On Tue, Jul 11, 2017 at 11:20 AM, Wu, Jennifer <Wu.Jennifer@epa.gov> wrote:

Hi Malenna, thanks for the conversation on my questions below. I had one more question come up that I've included below, if you could include that in your reply to this email. Feel free to call if you have questions.

From: Wu, Jennifer
Sent: Thursday, June 22, 2017 1:01 PM
To: 'Cappellini, Malenna' <malenna_cappellini@fws.gov>
Cc: Seyfried, Erin <Seyfried.Erin@epa.gov>
Subject: Clarification questions on LNFH NPDES permit comments

Hi Malenna, as in my voicemail, I'm working on the Response to Comments document and had some questions on the hatchery's comments that I wanted to clarify. If you could respond in the next 1-2 weeks, that would be helpful.

1. For the two pollution abatement ponds, are these run in parallel or series? If they are run in parallel, are each of the pollutant ponds designed similarly with similar retention times?
2. Outfall 003 (Overflow canal from the screen chambers) is not currently being used, but the facility has proposed that the permit authorize this outfall in the event that it might be used. Please verify that this return bypass water, if it were used, is not commingling with other effluent prior to discharge. Please also verify that the overflow canal could be used at any time regardless of whether fish drawdown were occurring.
3. During fish drawdown events, Outfall 005 (Pumped/Piped Fish release) is used for 1-2 weeks in late April. The hatchery has also requested authorization to discharge at Outfall 004 (Top of Fish Ladder) for potential emergency releases and/or future use, though fish are currently being pumped to Outfall 005 and Outfall 004 is not currently being used. Please verify that when Outfalls 005 and 004 are in use, the effluent does not comeingle with other effluent prior to discharge.
4. For Outfall 006 (Pumped discharge to the hatchery canal), please verify that the discharge to the hatchery canal could be used at any time regardless of whether fish drawdown were occurring.
5. Please describe the variable speed pump used on Outfall 005 (Pumped/Piped Fish release). Is it possible to estimate the volume of water discharged each month or estimate the flow?
6. Please describe where the fish screens are in the hatchery.

Thanks, and feel free to give me a call if you'd like to discuss more.

Jenny Wu

USEPA Region 10

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